

REMARKS

Claims 1 – 3 and 11 – 17 are pending. Claims 12 – 17 are withdrawn from consideration. Claims 4-10 are canceled. Claim 1 is currently amended. Support for amended claim 1 is found in general throughout the application and particularly on page 5 lines 25-26. Reconsideration of the application in view of the remarks below is requested.

Rejections Under 35 U.S.C. § 103

Claims 1 – 8 and 11 have been Finally Rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,380,336 (“Soane”) in view of U.S. Patent No. 5,977,228 (“Mauer”). The rejection is respectfully traversed for the following reasons.

Soane discloses water and oil repellency imparting compositions for fibrous substrates. The compositions comprise a copolymer comprising (a) a fluoroaliphatic radical-containing agent, (b) stearyl (meth)acrylate, (c) a chlorine-containing compound, and (d) a monomer selected from those that contain an anhydride functional group or are capable of forming an anhydride functional group. The composition can optionally comprise a plasticizer.

Mauer teaches an aqueous floor finish composition comprising at least one polymeric film forming agent and a conventional plasticizing agent. In addition, the floor finish composition may comprise minor amounts of fluorochemical compound leveling agents.

The Examiner previously asserted that “[o]ne of ordinary skill would be motivated to select the plasticizers identified as conventional in Mauer for use in Soane given the reasonable expectation of the functioning of the plasticizer in the composition of Soane and the suggestion in Soane to use conventional plasticizers.”

Applicant previously argued that by incorporating certain plasticizers into the aqueous compositions of the invention comprising a fluorochemical compound, the aqueous compositions can surprisingly provide advantages such as providing good oil- and/or water-repellency properties to a substrate upon application at ambient conditions without the need for a heat treatment (see, for example, page 3, lines 10 – 13, and the Examples). Applicant further argued that Soane does not teach or disclose any of the plasticizers of the invention and that Mauer includes only a few plasticizers that fall within the scope of the present invention in a random list

of over twenty conventional plasticizers, and that Mauer does not teach or suggest which plasticizers will provide the unexpected advantages discussed above.

In the Final Rejection, the Examiner asserts that the Soane reference generically calls for conventional plasticizers and that the Mauer reference shows the claimed plasticizers as conventional plasticizers. The Examiner thus concludes that one of ordinary skill would be motivated to select the plasticizers in Mauer for use in the compositions of Sloane given the reasonable expectation of the resultant composition being plasticized. The Examiner also asserts that the unexpected results shown by applicant include species not supported by the showing and fail to support the breadth of the claimed invention.

In response, applicant respectfully submits that one of ordinary skill in the art would not be motivated to select the plasticizers in Mauer for use in the compositions of Sloane, because one would not have a reasonable expectation of the resultant composition being plasticized. One of ordinary skill in the art would recognize that the term “plasticizer” is a functional definition with regard to the particular material (e.g., polymer) being plasticized. A classic text in the field of polymer science explains the situation well¹:

Plasticizers are added to plastics to improve flow and, therefore, processability, and to reduce the brittleness of the product. The basic requirements that must be met by a plasticizer are compatibility and permanence. The plasticizer must be miscible with the polymer. This implies a similarity in the intermolecular forces active in the two components, and explains why compatibility is difficult to achieve with a nonpolar polymer such as polyethylene.

Mauer’s teachings agree with this²:

[Mauer’s] composition must contain at least one film-forming plasticizer that is plasticized by the plasticizing agent which requires that the plasticizing agent be sufficiently soluble in the film-forming polymer to affect its physical properties.

These teachings make it abundantly clear that one of ordinary skill in the art would recognize that the term “plasticizer” is defined functionally and would understand that whether a

¹ Billmeyer, Textbook of Polymer Science, Third Edition, 1984 (Page 472, internal ellipsis omitted)

² Mauer, column 3, lines 65-67

given compound can function as (i.e., be termed as) a plasticizer must be considered in regard to the particular polymer to be plasticized by the compound.

One of ordinary skill in the art would further recognize that Soane is concerned with fluorinated polymers and would appreciate that Soane's mention of plasticizers is clearly directed to the use of compounds that will plasticize his fluorinated polymers. Also, one would realize that such fluorinated polymers are even more nonpolar than the polyethylene mentioned by Billmeyer in the above-cited passage, and as such are even more difficult to plasticize. Finally, one would appreciate that the plasticizers mentioned by Mauer are clearly characterized by Mauer as conventional plasticizing agents, and are clearly intended to be used for the plasticization of Mauer's film-forming polymers chosen from a list of polymers (such as acrylics, polyesters, etc.) that does not include fluorinated polymers.

Thus, one of ordinary skill would conclude, based on the teachings of the references and based on one's background knowledge of plasticization, that the conventional plasticizers listed by Mauer would not be effective to plasticize the fluorinated polymers of Soane. Accordingly, the Examiner's contention that one would have a reasonable expectation of the composition of Sloane being plasticized by the conventional plasticizers of Mauer, is incorrect. Thus, absent the unexpected findings presented by the applicant, one of ordinary skill would not be led to combine the teachings of Sloane with those of Mauer in the manner prescribed by the Examiner.

With regard to the Examiner's assertion that the unexpected results shown by applicant include species not supported by the showing and fail to support the breadth of the claimed invention, claim 1 as amended includes as a feature the exact six species for which unexpected results are shown in Table 6 (Examples 18-23) and Table 7 (Examples 24-29). Thus, the breadth of claim 1 as now worded is supported exactly by the unexpected results presented by applicant. This, in combination with the above-presented argument that one would not be led to use the conventional plasticizers of Mauer in the fluorinated polymer compositions of Sloane, absent the unexpected results presented by applicant, renders claim 1 nonobvious in view of Sloane and Mauer. Applicant respectfully submits that dependent claims 2-3 and 11 are likewise nonobvious.

Concluding Remarks and Request for Rejoinder

It is submitted that this amendment places claims 1-3 and 11 in condition for allowance. Reconsideration of the application and allowance of claims 1-3 and 11 is respectfully requested.

Withdrawn claims 12-17 depend from, and accordingly incorporate all the claim features of, currently amended patentable claim 1. As such, it is submitted that withdrawn claims 12-17 are likewise patentable and that no serious burden would be incurred in the searching of art relevant to these claims. Applicant timely traversed the restriction (election) requirement in the telephone call of October 30, 2007. Therefore, Applicant respectfully requests reconsideration, rejoinder and allowance of withdrawn claims 12-17 under 37 CFR 1.104.

Respectfully submitted,

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/Kenneth B. Wood/

Date

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